

PATENT

REMARKS

Claims 1-22 are pending in the application. Claims 1-22 have been rejected.

Claim Rejections under 35 U.S.C. § 103

Obviousness Rejection Based on U.S. Patent No. 5,923,650 to Chen et al. in view of U.S. Patent No. 6,801,512 to Cudak et al. and further in view of U.S. Patent App. 2001/0029178A1 to Criss et al.

Claims 1-2 and 12-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Cudak and further in view of Criss. Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejection of claims 1-2 and 12-17 are improper because the elements for a *prima facie* case of obviousness are not met. Specifically, the rejection fails to meet the criterion that the prior art references must teach or suggest all the claims limitations.

Claims 1-2 and 12-17

Regarding independent claim 1 and claim 2 depending therefrom, independent claim 12 and claim 13 depending therefrom and independent claim 14 and claims 15-17 depending therefrom, Applicants respectfully submit that neither the Chen reference nor the Cudak reference nor the Criss reference, either individually or in any proper combination, teach or suggest Applicants' invention as claimed.

PATENT

The Office Action concedes, "Chen '650 does not teach a feedback relationship transmission. An example of a feedback relationship transmission is ARQ, as described in the specification, paragraph 1047." (Final Office Action, p. 3). The Office Action alleges "Cudak teaches that remote user transmissions include ARQ, which is scheduled along with data packets (column 1, lines 36-44)." (Final Office Action, p. 3).

Applicants respectfully recite in its entirety the Cudak citation at column 1, lines 36-44, namely:

Prior art systems have used a centralized architecture in which the scheduling of data packets and the Automatic Repeat reQuest (ARQ) function have been performed in a central controller. This centralized architecture imposes more delay than is desirable for FCSS (or any scheme using soft handoff). Thus, what is needed is a new architecture for a digital wireless communication system that will reduce the scheduling and ARQ delays observed in the prior art centralized systems. (Emphasis added.)

Specifically, the Cudak reference teaches:

... network consisting of a central base site controller (CBSC) 202 coupled to base transceiver stations (BTSs) 208 at each cell site. The CBSC 202 includes an ARQ function 204 and a scheduler 206. (Cudak, col. 3, lines 10-13).

Two new distributed network architectures that support FCSS are proposed that move either the scheduling or both the scheduling and ARQ to the BTS. (Cudak, col. 3, lines 36-38).

In addition to allowing scheduling to be moved to the BTS, FCSS allows the ARQ function to be moved to the BTS . . . both the schedule 606 and the ARQ function 604 are distributed in the BTSs 602. (Cudak, col. 4, lines 43-48).

While Cudak may teach of co-locating the functionality of both scheduling and the ARQ functionality, Applicants' invention determines a schedule based on a feedback relationship. Specifically, Applicants' invention as claimed recites:

1. A method for scheduling transmission on a link in a communication system, comprising:
 - transmitting data on a first link in the communication system;
 - determining a *transmission schedule based on a feedback relationship* or a pre-scheduled transmission; and
 - transmitting scheduling information on the first link in the communication system. (Emphasis added.)

PATENT

12. An apparatus for scheduling transmission on a link in a communication system, comprising:

a transmitter;

a processor; and

a storage medium coupled to the processor and containing a set of instructions executable by the processor to cause the transmitter to transmit data on a first link in the communication system, determine a *transmission schedule based on a feedback relationship* or a pre-scheduled transmission; and cause the transmitter to transmit scheduling information on the first link in the communication system. (Emphasis added.)

14. An apparatus for scheduling transmission on a link in a communication system, comprising:

a transmitter configured to transmit data on a first link in the communication system;

a processor; and

a storage medium coupled to the processor and containing a set of instructions executable by the processor to determine a *transmission schedule based on a feedback relationship* or a pre-scheduled transmission; and to schedule transmission on the link in the communication system in accordance with a reception of the transmitted data on a first link. (Emphasis added.)

Therefore, neither the Chen reference nor the Cudak reference teaches or suggests "determining a transmission schedule based on a feedback relationship" as claimed by Applicants.

The Office Action continues:

Chen '650 does not teach a pre-scheduled transmission. Criss teaches that a remote user can have a pre-scheduled transmission (paragraph 0120). (Final Office Action, p. 3).

Applicants respectfully recite in its entirety the Criss reference's citation at paragraph 0120, namely:

Turning now to FIG. 17, an additional feature of the present invention is described in which the mobile terminals 36 have pre-scheduled times at which each mobile terminal 36 inquires as to whether a software upgrade is needed. For example, in order to avoid normally busy times, the mobile terminals 36 may wake from a sleep mode during late evening or early morning hours and transmit an inquiry to the host computer 30 to determine whether a software upgrade is needed. (Emphasis added.)

While the Criss reference may teach of the functionality of a mobile terminal having a pre-scheduled time to call in, Applicants' invention as claimed recites:

PATENT

1. A method for scheduling transmission on a link in a communication system, comprising:

transmitting data on a first link in the communication system;

determining a *transmission schedule based on* a feedback relationship or *a pre-scheduled transmission; and*

transmitting scheduling information on the first link in the communication system. (Emphasis added.)

12. An apparatus for scheduling transmission on a link in a communication system, comprising:

a transmitter;

a processor; and

a storage medium coupled to the processor and containing a set of instructions executable by the processor to cause the transmitter to transmit data on a first link in the communication system, determine a *transmission schedule based on* a feedback relationship or *a pre-scheduled transmission; and cause the transmitter to transmit scheduling information* on the first link in the communication system. (Emphasis added.)

14. An apparatus for scheduling transmission on a link in a communication system, comprising:

a transmitter configured to transmit data on a first link in the communication system;

a processor; and

a storage medium coupled to the processor and containing a set of instructions executable by the processor to determine a *transmission schedule based on* a feedback relationship or *a pre-scheduled transmission; and to schedule transmission* on the link in the communication system in accordance with a reception of the transmitted data on a first link. (Emphasis added.)

Therefore, neither the Chen reference nor the Criss reference teaches or suggests "determining a transmission schedule based on . . . a pre-scheduled transmission; and transmitting scheduling information" as claimed by Applicants. The Criss reference appears to be entirely silent regarding any mechanism of getting the scheduling information, after it has been determined, into the mobile terminal.

Furthermore, one of ordinary skill in the art would not be motivated to combine the teachings of the Criss reference, namely, 'scheduling the mobile terminals to dial in during late evening or early morning hours to avoid normally busy times', to form a "method for scheduling

PATENT

transmission on a link in a communication system, comprising: . . . determining a transmission schedule . . . and transmitting scheduling information . . ." as claimed by Applicants.

Accordingly, since neither the Chen reference nor the Cudak reference nor the Criss reference, either individually or in any proper combination, teach, suggest, or motivate Applicants' invention as claimed in independent claim 1 and claim 2 depending therefrom, independent claim 12 and claim 13 depending therefrom, and independent claim 14 and claims 15-17 depending therefrom, the cited references cannot render obvious under 35 U.S.C. § 103 Applicants' invention as claimed. Therefore, Applicants respectfully request that such rejections be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 5,923,650 to Chen et al. in view of U.S. Patent No. 6,801,512 to Cudak et al.

Claims 3-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Cudak. Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejection of claims 3-6 are improper because the elements for a *prima facie* case of obviousness are not met. Specifically, the rejection fails to meet the criterion that the prior art references must teach or suggest all the claims limitations.

PATENT**Claims 3-6**

Regarding independent claim 3 and claims 4-6 depending therefrom, Applicants respectfully submit that neither the Chen reference nor the Cudak reference, either individually or in any proper combination, teach or suggest Applicants' invention as claimed.

The Office Action reiterates the teachings of Chen '650 and Cudak as described above with respect to claim 1. Applicants respectfully sustain the above-proffered arguments relating the Chen reference and the Cudak reference.

Applicants' invention as claimed recites:

3. A method for scheduling transmission on a link in a communication system, comprising:

transmitting data on a first link in the communication system;
determining a *transmission schedule based on a feedback relationship*; and
scheduling transmission on the link in the communication system in accordance with a reception of said transmitted data on the first link. (Emphasis added.)

Therefore, neither the Chen reference nor the Cudak reference teaches or suggests "determining a transmission schedule based on a feedback relationship" as claimed by Applicants.

Accordingly, since neither the Chen reference nor the Cudak reference, either individually or in any proper combination, teach, suggest, or motivate Applicants' invention as claimed in independent claim 3 and claims 4-6 depending therefrom, the cited references cannot render obvious under 35 U.S.C. § 103 Applicants' invention as claimed. Therefore, Applicants respectfully request that such rejections be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 5,923,650 to Chen et al. in view of U.S. Patent App. 2001/0029178A1 to Criss et al.

Claims 7-11 and 18-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen in view of Criss. Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references

PATENT

themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejection of claims 7-11 and 18-22 are improper because the elements for a prima facie case of obviousness are not met. Specifically, the rejection fails to meet the criterion that the prior art references must teach or suggest all the claims limitations.

Claims 7-11 and 18-22

Regarding independent claim 7 and claims 8-11 depending therefrom and independent claim 18 and claims 19-22 depending therefrom, Applicants respectfully submit that neither the Chen reference nor the Criss reference, either individually or in any proper combination, teach or suggest Applicants' invention as claimed.

The Office Action reiterates the teachings of Chen '650 and Criss as described above with respect to claim 1. Applicants respectfully sustain the above-proffered arguments relating the Chen reference and the Criss reference.

Applicants' invention as claimed recites:

7. A method for scheduling transmission on a link in a communication system, comprising:

ascertaining the link capacity at a base station expecting a pre-scheduled transmission of data on the link; and

proceeding in accordance with said ascertained link capacity. (Emphasis added.)

18. An apparatus for scheduling transmission on a link in a communication system, comprising:

a processor;

a storage medium coupled to the processor and containing a set of instructions executable by the processor to *ascertain the link capacity at a base station expecting transmission of a pre-scheduled data on the link, and proceed in accordance with the ascertained link capacity.* (Emphasis added.)

PATENT

Therefore, neither the Chen reference nor the Criss reference teaches or suggests "ascertaining the link capacity at a base station expecting a pre-scheduled transmission of data on the link; and proceeding in accordance with said ascertained link capacity" or "to ascertain the link capacity at a base station expecting transmission of a pre-scheduled data on the link, and proceed in accordance with the ascertained link capacity" as claimed by Applicants.

As stated, Criss teaches that a remote user can have a pre-scheduled transmission (paragraph 0120). (Final Office Action, p. 3).

Applicants respectfully recite in its entirety the Criss reference's citation at paragraph 0120, namely:

Turning now to FIG. 17, an additional feature of the present invention is described in which the mobile terminals 36 have pre-scheduled times at which each mobile terminal 36 inquires as to whether a software upgrade is needed. For example, in order to avoid normally busy times, the mobile terminals 36 may wake from a sleep mode during late evening or early morning hours and transmit an inquiry to the host computer 30 to determine whether a software upgrade is needed. (Emphasis added.)

While the Criss reference may teach of the functionality of a mobile terminal having a pre-scheduled time to call in, Applicants' invention as claimed recites "ascertaining the link capacity at a base station expecting a pre-scheduled transmission of data on the link; and proceeding in accordance with said ascertained link capacity" (Applicants' claim 7, in part) or "to ascertain the link capacity at a base station expecting transmission of a pre-scheduled data on the link, and proceed in accordance with the ascertained link capacity" (Applicants' claim 18, in part).

Accordingly, since neither the Chen reference nor the Criss reference, either individually or in any proper combination, teach, suggest, or motivate Applicants' invention as claimed in independent claim 7 and claims 8-11 depending therefrom, and independent claim 18 and claims 19-22 depending therefrom, the cited references cannot render obvious under 35 U.S.C. § 103 Applicants' invention as claimed. Therefore, Applicants respectfully request that such rejections be withdrawn.

PATENT**ENTRY OF REMARKS/AMENDMENT**

Applicants propose to amend no claims herein. The proposed arguments and previous amendments are supported by the as-filed specification and drawings and do not add any new matter to the application. Further, Applicants' remarks do not raise new issues or require a further search. Finally, if the Examiner determines that the remarks do not place the application in condition for allowance, entry is respectfully requested upon filing of a Notice of Appeal herein.

REQUEST FOR ALLOWANCE

In view of the foregoing, Applicant submits that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

Dated: December 19, 2005

By: Roberta A. Young

Roberta A. Young, Reg. No. 53,813
(858) 658-5803

QUALCOMM Incorporated
5775 Morehouse Drive
San Diego, California 92121
Telephone: (858) 658-5787
Facsimile: (858) 658-2502

Attorney Docket No.: 010368
Customer No.: 23696